

# On the larvae of *Bruchidius* Schilsky (Bruchidae : Coleoptera)<sup>1</sup>

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(With thirty-three text-figures)

The present investigations are based on the studies of the last instar larvae of ten species of *Bruchidius* collected from Northwest India. Their comparative morphology has been studied with a view to determining the characters of classification significance. The important characters of each larva along with its host plants and dimensions have been given. The species studied are: *Bruchidius mimosiae* Arora, *B. maculipygus* (Champ.), *B. saundersi* (Jek.), *B. albizziae* Arora, *B. lineolatus* Arora, *B. aureus* Arora, *B. urbanus* (Sharp), *B. angustifrons* Schils., *B. cassiae* Arora, and *B. tephrosiae* Arora.

## INTRODUCTION

The genus *Bruchidius* includes field forms attacking the wild- and the ornamental leguminous plants. The eggs are laid on the pods of these plants. The first instar larva hatches out and enters the seed where it grows at its expense resulting in complete destruction of the seed.

Steffan (1946), Genduso (1958), and Parnell (1964) described the larvae of *Bruchidius fasciatus* Ol., *B. perparvulus* Boh., and *B. ater* (Marsh) respectively. Boving (1927) is perhaps the only worker who gave taxonomic account of eleven species belonging to the various genera of Bruchidae.

The present investigations, based on the studies of external characters of the last instar larvae of ten species, include the distinctive characters and the host plants of each species.

## DISTINCTIVE CHARACTERS

### ***Bruchidius mimosiae* Arora**

Frons with three pairs of setae, but without sensory pits; labrum with three submarginal setae; terminal seta of antenna twice as long as apical papilla; mala with four malar processes; premental sclerite rounded posteriorly; ligular spines absent.

Dimensions: Length 2.88-3.40 mm, Breadth 1.20-1.68 mm.

Host Plant: *Mimosa rubicaulis* Lamk.

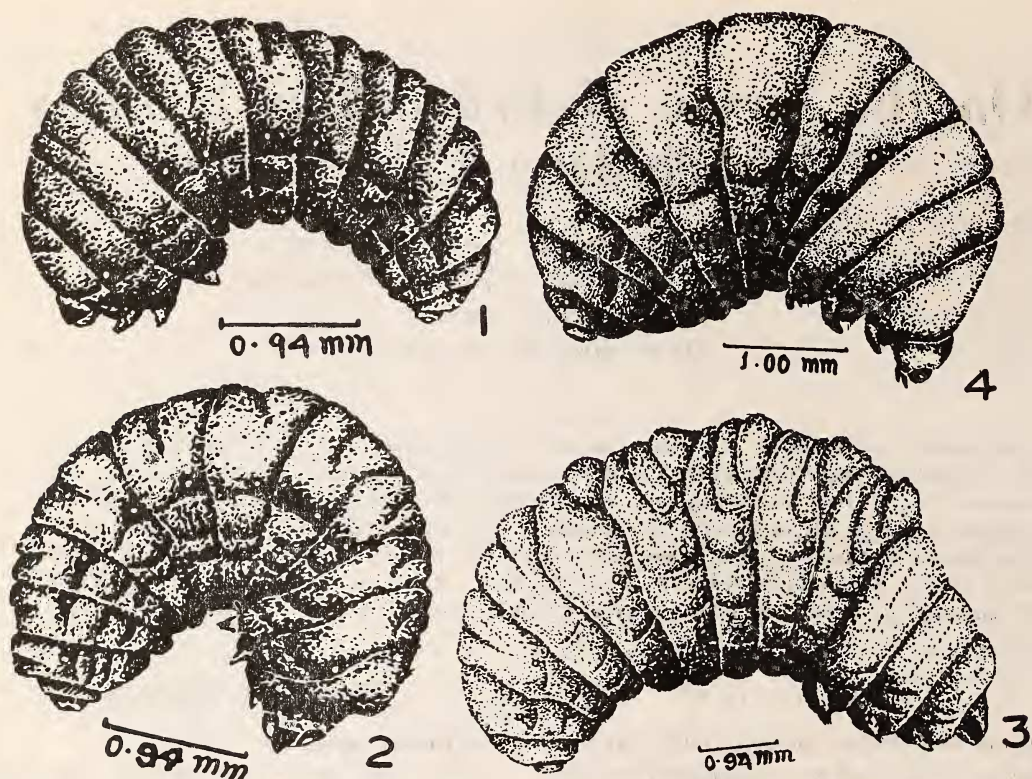
### ***Bruchidius maculipygus* (Champ.)**

Frons with three pairs of setae, but without sensory pits; labrum with three submarginal setae; terminal seta of antenna two and a half times as long as apical papilla; mala with four malar processes; premental sclerite truncated posteriorly; ligular spines present.

Dimensions: Length 2.64-3.60 mm, Breadth 1.53-2.01 mm.

Host Plant: *Acacia pennata* (Willd.).

<sup>1</sup> Accepted January 1974.



Figs. 1-4. Lateral view of the Larva: 1. *B. mimosiae*; 2. *B. maculipygus*;  
3. *B. saundersi*; 4. *B. albizziae*.

**Bruchidius saundersi** (Jek.)

Frons with three pairs of setae and a pair of sensory pits; labrum with three submarginal setae; terminal seta of antenna reaching the tip of apical papilla; mala with five malar processes; premental sclerite rounded posteriorly and carries a short median process in between the two anterior prongs; ligular spines absent.

Dimensions: Length 6.04-6.28 mm, Breadth 2.55-2.97 mm.

Host Plants: *Albizzia lebbek* Benth., *Albizzia* sp.

**Bruchidius albizziae** Arora

Frons with three pairs of setae and a pair

of pits; labrum with three submarginal setae and a pair of sensory pits; terminal seta of antenna twice as long as apical papilla; mala with five malar processes; premental sclerite with a truncated posterior margin; ligular spines absent.

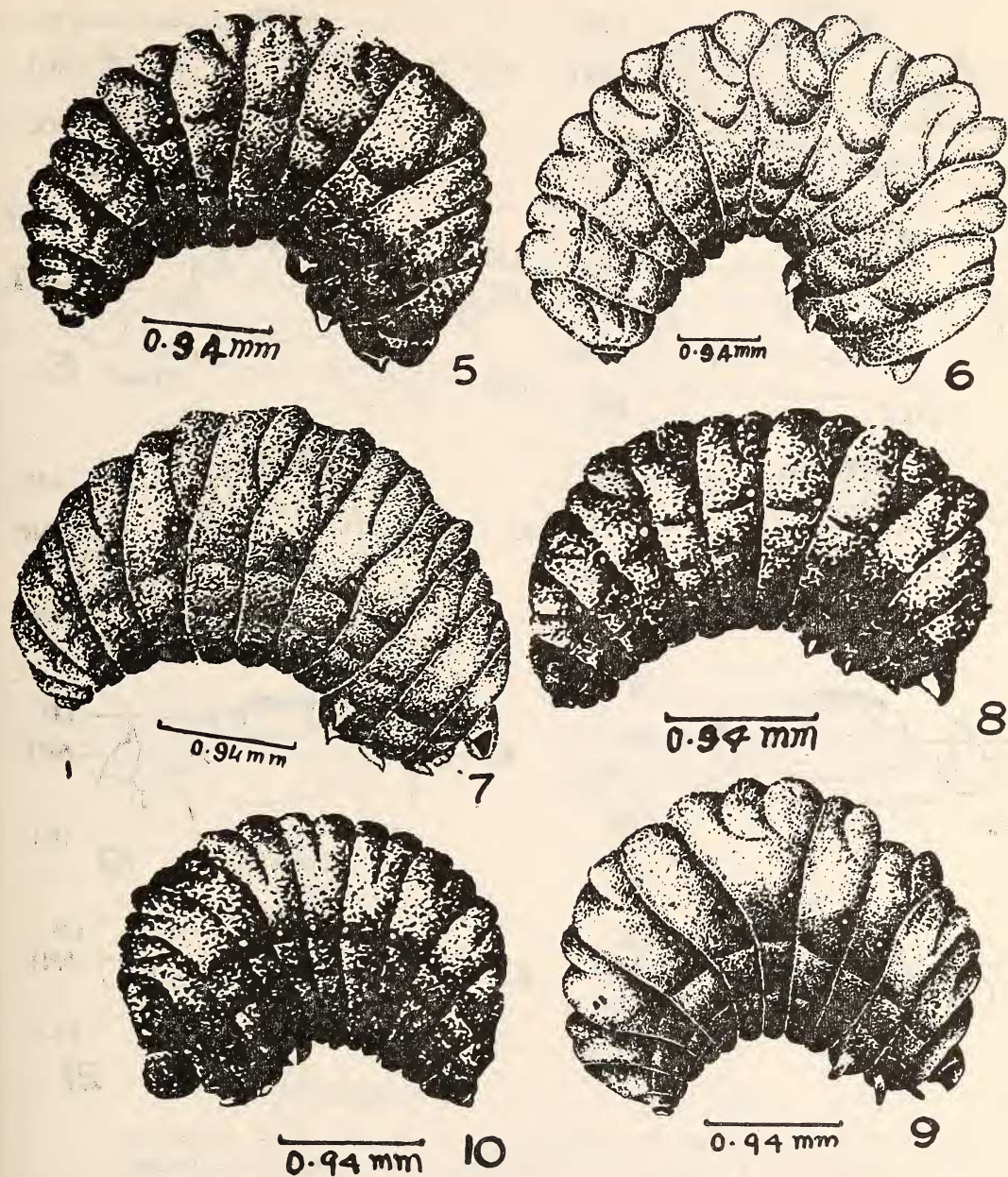
Dimensions: Length 2.97-3.69 mm, Breadth 1.43-1.82 mm.

Host Plants: *Albizzia lebbek* Benth., *A. procera* (Roxb.) Benth., *Acacia modesta* Wall., *Acacia catechu* Willd.

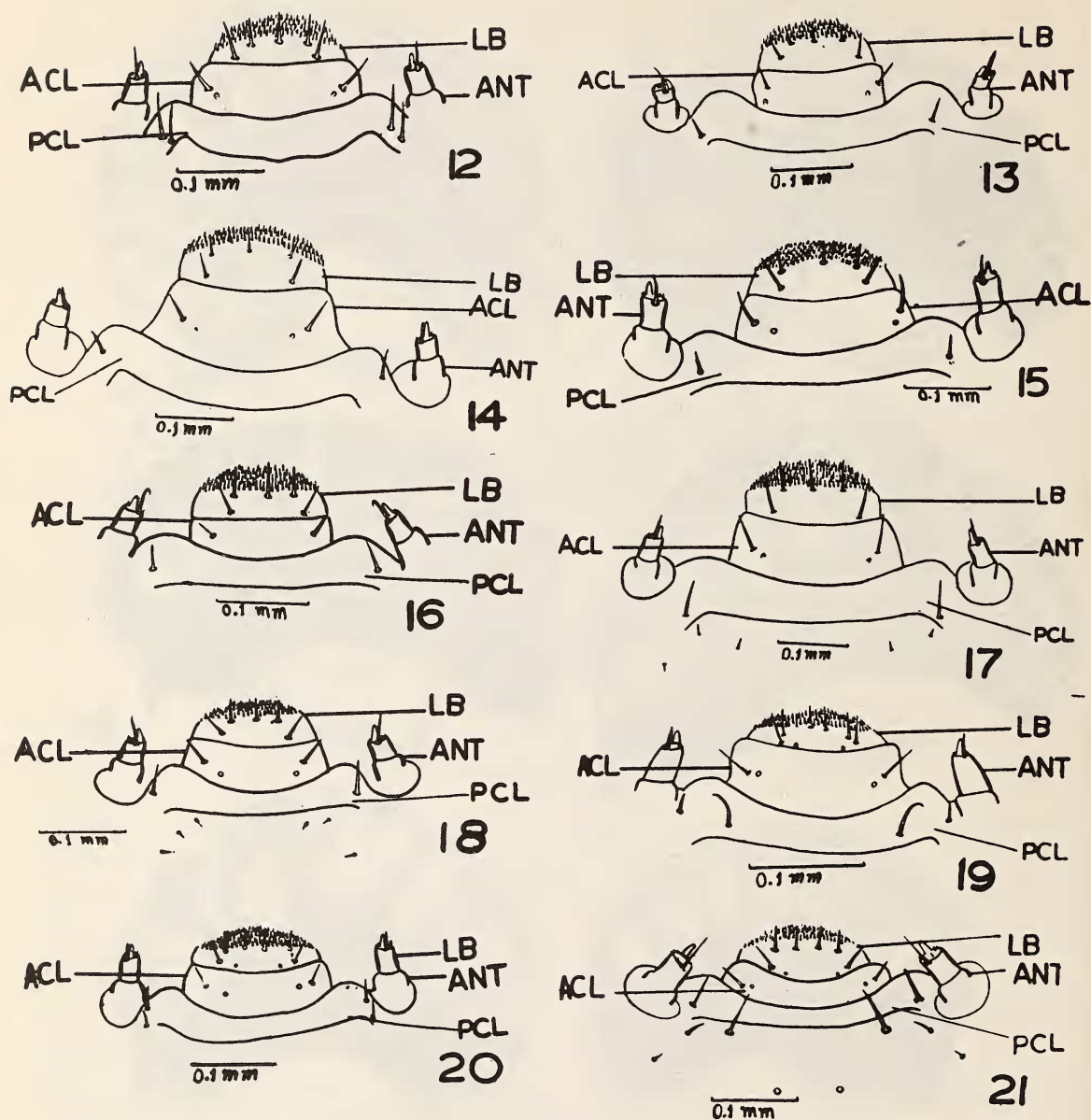
**Bruchidius lineolatus** Arora

Frons with three pairs of setae, but without sensory pits; labrum with three submarginal setae; terminal seta of antenna twice as long

LARVAE OF BRUCHIDIUS



Figs. 5-10. Lateral view of the Larva: 5. *B. lineolatus*; 6. *B. aureus*; 7. *B. urbanus*; 8. *B. angustifrons*; 9. *B. cassiae*; 10. *B. tephrosiae*.



Figs. 12-21. Labrum, Clypeus and Antennae: 12. *B. mimosiae*; 13. *B. maculipygus*; 14. *B. saundersi*; 15. *B. albizziae*; 16. *B. lineolatus*; 17. *B. aureus*; 18. *B. urbanus*; 19. *B. angustifrons*; 20. *B. cassiae*; 21. *B. tephrosiae*.

Abbreviations: ANT—Antenna, ACL—Anterior Clypeus, PCL—Posterior Clypeus, LB—Labrum.

as apical papilla; mala with five malar processes; premental sclerite with a wavy posterior margin; ligular spines present.

Dimensions: Length 2.97-3.24 mm, Breadth 1.58-1.68 mm.

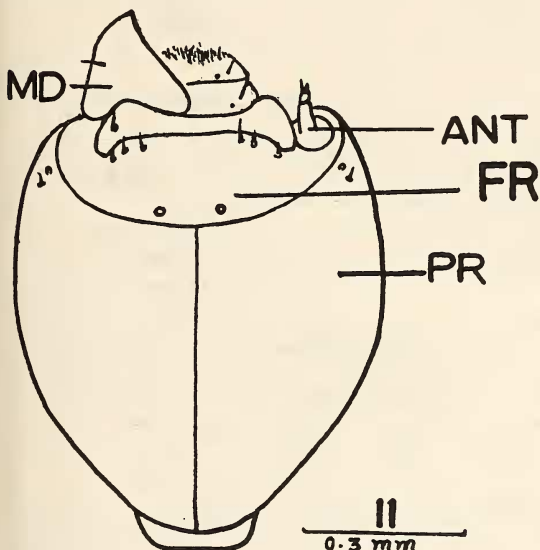


Fig. 11. Dorsal view of the head of *B. ablizziae*.

Abbreviations: ANT—Antenna, FR—Frons, MD—Mandible, PR—Parietal.

Host Plant: *Albizzia procera* (Roxb.) Benth.

**Bruchidius aureus** Arora

Frons with three pairs of setae and a pair of sensory pits; labrum with three submarginal setae but without sensory pits; terminal seta of antenna one and a half times as long as apical papilla; mala with five malar processes; premental sclerite rounded posteriorly; ligular spines present.

Dimensions: Length 5.95-6.38 mm, Breadth 2.64-3.12 mm.

Host Plant: *Albizzia lebbek* Benth.

**Bruchidius urbanus** (Sharp)

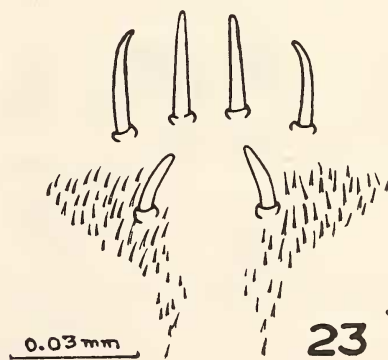
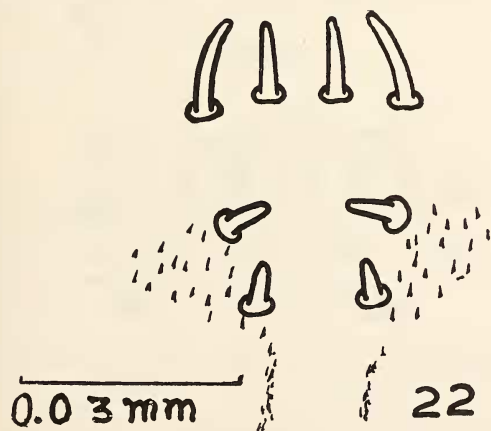
Frons with three pairs of setae and a pair of pits; labrum with three submarginal setae, but without sensory pits; terminal seta of antenna twice as long as apical papilla; mala with five malar processes; premental sclerite rounded posteriorly; ligular spines present.

Dimensions: Length 3.40-3.98 mm, Breadth 1.49-2.11 mm.

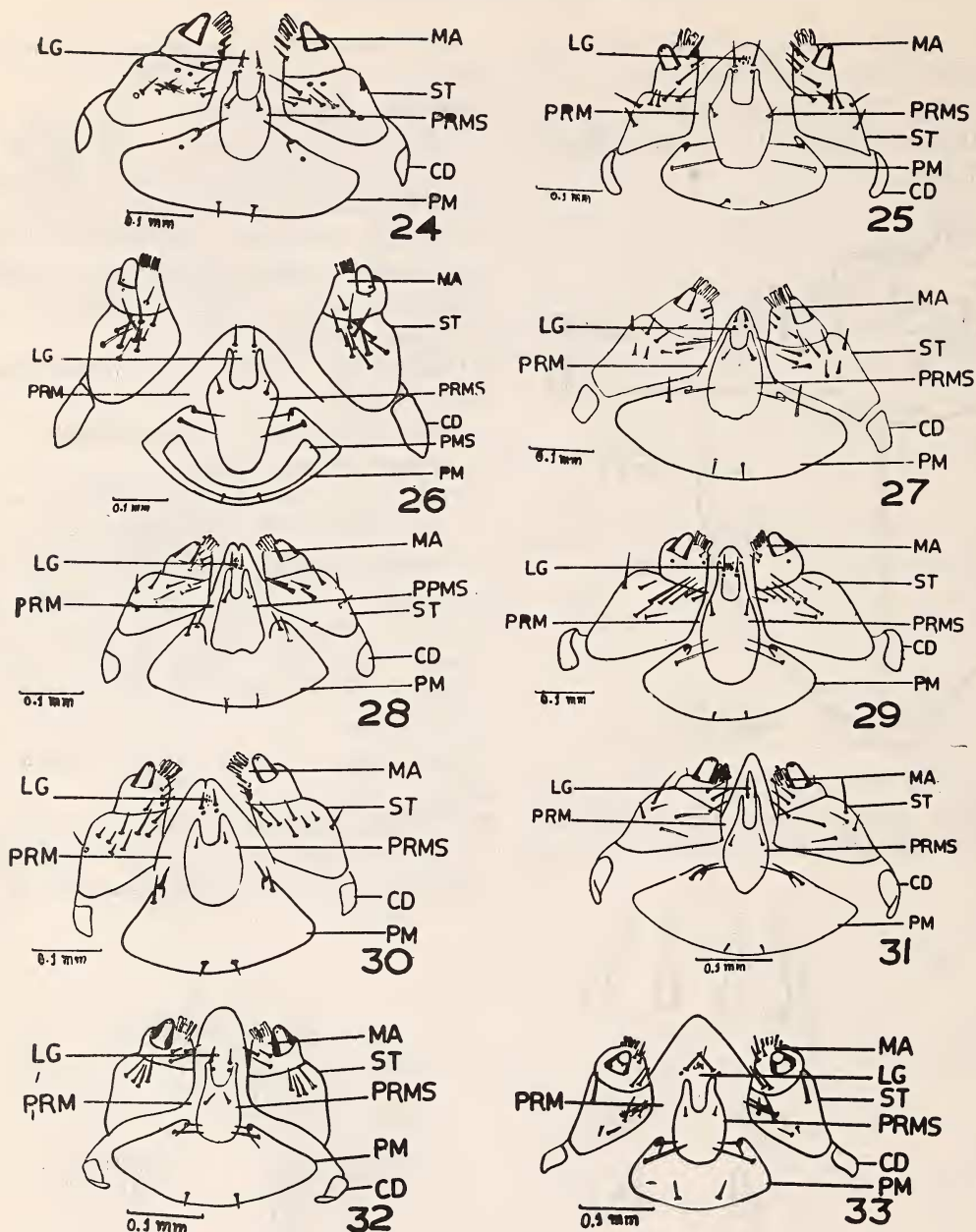
Host Plant: *Albizzia procera* (Roxb.) Benth.

**Bruchidius angustifrons** Schils.

Frons with two pairs of setae and a pair of sensory pits; labrum bearing two pairs of sub-



Figs. 22-23. Epipharyngeal surface of labrum: 22. *B. angustifrons*; 23. *B. mimosiae*.



Figs. 24-33. Maxillae and Labium: 24. *B. mimosiae*; 25. *B. maculipygus*; 26. *B. saundersi*; 27. *B. albizziae*; 28. *B. lineolatus*; 29. *B. aureus*; 30. *B. urbanus*; 31. *B. angustifrons*; 32. *B. cassiae*; 33. *B. tephrosiae*.

Abbreviations: CD—Cardo, LG—Ligula, MA—Mala, PM—Postmentum, PRM—Prementum, PRMS—Premental sclerite, ST—Stipes.

marginal setae; terminal seta of antenna slightly longer than apical papilla; mala with five malar processes; premental sclerite conical posteriorly; ligular spines absent.

Dimensions: Length 2.40-2.54 mm, Breadth 1.44-1.55 mm.

Host Plant: *Sesbania sesban* (L.) Merr.  
var. *bicolor* (W.A.) P.W. Ander.

**Bruchidius cassiae** Arora

Frons with a pair of setae and a pair of pits; labrum with two pairs of submarginal setae; terminal seta of antenna slightly longer than apical papilla; mala with five malar processes; premental sclerite rounded posteriorly; ligular spines absent.

Dimensions: Length 2.16-2.40 mm, Breadth 0.96-1.20 mm.

Host Plant: *Cassia tora* L.

**Bruchidius tephrosiae** Arora

Frons with three pairs of setae, but without sensory pits; labrum oval with two pairs of submarginal setae; terminal seta of antenna as long as apical papilla; mala with five malar processes; premental sclerite rounded posteriorly; ligular spines present.

Dimensions: Length 2.64 mm, Breadth 1.58 mm.

Host Plant: *Tephrosia purpurea* (Linn.) Pers.

ACKNOWLEDGEMENTS

I am thankful to Professor G. L. Arora for his guidance and to Dr. H. R. Pajni for his help. The facilities provided by Prof. G. P. Sharma, Head of Zoology Department, Panjab University, are gratefully acknowledged.

REFERENCES

- BOVING, A. G. (1927): On the classification of Mylabridae larvae (Coleoptera, Mylabridae). *Proc. Ent. Soc. Washington* 29(6):133-143.
- GENDUSO, P. (1958): Osservazioni sul tonchio del trifoglio (*Bruchidius perparvulus* Boh.). *Bull. Ist. Ent. Agri. Palermo* 2:41-55.
- PARNELL, J. R. (1964): The external morphology of the larvae and notes on the pupae of *Bruchidius ater* (Marsh) (Col. Bruchidae) and *Apion fusciroster* F. (Col. Curculionidae). *Ent. Mon. Mag.* 25(4):83-87.
- STEFFAN, J. R. (1946): La larve primaire de *Bruchidius fasciatus* Ol. et ses rapports avec quelque larve neonate de Bruchides. *Bull. Soc. Ent. Fr. Paris* 51:12-16.